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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,033	08/30/2001	Kamran Taymourian	4537-1	5560

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EXAMINER
KILKENNY, TODD J

ART UNIT	PAPER NUMBER
1733	5

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/944,033	TAYMOURIAN ET AL.	
	Examiner	Art Unit	
	Todd J. Kilkenny	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *1-9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10,11,13-18,22 and 23* is/are rejected.

7)☒ Claim(s) *12,19-21 and 24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II in Paper No. 4 is acknowledged. The traversal is on the ground(s) that "any appropriate prior art searching for the fundamental invention to wallboard having fly ash would be the same, regardless of whether the invention is the wallboard itself or the method of making it." This is not found persuasive because, the invention to the wallboard itself does not require the first and second members to be joined to the core composition at a viscosity of at least 600,000 cp as is required in the independent method claims. Applicant argues that this limitation is a feature that can be part of the product claim. However, as currently claimed, this feature is not included in the independent product claim and therefore the restriction is deemed proper as the two inventions as claimed comprise divergent subject matter. Furthermore, the two inventions have acquired separate status as they are classified in separate classes (class 428 and class 156).

2. Claims 1 - 9 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

~~(a) A patent may not be obtained though the invention is not identically disclosed or described as set~~ forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 10, 11, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Costopoulos et al (US 4,659,385) in view of Shulman (US 5,622,556).

In US 4,659,385, Costopoulos et al disclose a method of manufacturing building material from fly ash by combining fly ash with a bonding agent, an air entrainer, water and a foaming agent so as to produce a material that is relatively strong and light, has good structural strength, and is resistant to fire, freezing and thermal shock. Costopoulos et al teach that fly ash is a waste product so said material offers the advantages of being inexpensive and employing fly ash in building materials helps alleviate a waste disposal problem. Costopoulos et al appear to generally suggest employing said fly ash composition in building materials, including preformed articles, wherein in the background of the invention, Costopoulos et al recognize that fly ash has been employed in wallboards (Col. 2, lines 2 – 7, lines 35 – 44; Col. 3, lines 24 – 39).

In US 5,622,556, Shulman teach methods for producing lightweight, low water content cementitious compositions which can be used in the construction of wallboard of the sandwich type of construction wherein a **hardened** composition is sandwiched by suitably strong paper or other construction material. Shulman suggests that fly ash can be used as a partial replacement for the Portland cement (Col. 3, line 60 – Col. 4, line 37; Col. 5, lines 53 – 67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the fly ash building material of Costopoulos et al in the manufacturing of wallboards in view of Costopoulos et al suggesting to employ the compositions in building materials and appearing to suggest wallboards as being an example of said building materials and further in view of Shulman which teaches employing fly ash in wallboard core compositions wherein said wallboards are formed by sandwiching a **hardened** core composition between two suitably strong paper of other construction material layers, as is a conventional in forming wallboard.

As to applicant's claimed viscosity limitation, it is recognized that neither Costopoulos et al nor Shulman positively disclose any viscosity teaching. However, in view of Shulman suggesting to sandwich a **hardened** composition containing fly ash to form a wall board, it is the examiner's position that one of ordinary skill in the art would readily appreciate hardened to define a highly viscous composition, wherein at least 600,000 cp is recognized as merely defining a highly viscous, hardened state.

As to claim 11, Costopoulos et al suggest polyvinyl acetate resin in a water solution as the preferably bonding agent and hydrogen peroxide in a water solution as the preferred foaming agent. Therefore, both the binding agent and foaming agent include portions of water and Costopoulos et al positive suggest said two components are compatible with one other (Col. 4, line 60 – Col. 5, line 60).

As to claim 23, Shulman is evidence that it is known to add fibers to cementitious mixtures in forming building materials as means of reinforcing the final cured product (Col. 4, line 62 – Col. 5, line 10).

5. Claims 13, 14 and 16 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Costopoulos et al (US 4,659,385) in view of Shulman (US 5,622,556) as applied to claim 10 above, and further in view of Aston (US 4,551,384).

Neither Costopoulos et al nor Shulman provide the specific processing descriptions of how to form a wallboard from the building composition comprising fly ash as identified in applicant's dependent claims 13, 14 and 16 - 18. Aston et al is cited as evidence disclosing a known processes for making boards, which includes separately adding the components of the core composition into a mixer and pumping said core composition in slurry form onto a first paper layer traveling on a conveyor and thereafter covering said slurry with a second paper layer (see Aston; Figure). In view of Costopoulos et al's and Shulman's silence as to how to manufacture the suggested wallboard from the fly ash composition, it would have been obvious to one of ordinary skill in the art at the time of the invention to look to the general state of the wallboard manufacturing art wherein as evidenced by Aston et al it is commonly known to manufacture wallboards from cementitious composition by individually combining said composition ingredients into a pump/mixer and thereafter feeding said mixture in slurry form onto a bottom paper, which is located on a conveyor, and thereafter covering said slurry with a top paper. In view of Aston et al depicting to hold and subsequently add the composition ingredients separately via hoppers, one of ordinary skill in the art would readily appreciate that said hoppers enable the production to be controlled in regard to when and the amount of each component is to be added.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Costopoulos et al (US 4,659,385) in view of Shulman (US 5,622,556) as applied to claim 10 above, and further in view of Betzer (US 4,842,786).

Neither Costopoulos et al nor Shulman suggest monitoring the viscosity of the composition. However, in US 4,842,786, Betzer teach a method for producing a wallboard panel, which includes monitoring the degree of "set" because the degree of hardness of the slurry during surfacing is critical (Col. 3, line 12 – Col. 4, line 12). It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to monitor the viscosity of the composition of Costopoulos et al in the manufacture of forming wallboards as such is recognized as critical by Betzer during surfacing of the wallboard. While it appears that surfacing as suggest by Betzer is drawn to embossing, it is the examiner's position that surfacing also encompasses the lamination of top and bottom layers to a wallboard core.

Allowable Subject Matter

7. Claims 12, 19 - 21 and 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 12, there is no suggestion or motivation in the prior art of record to employ polyvinyl alcohol as part of both the bonding agent and foaming agent of Costopoulos et al.

As to claims 19 – 21, a main benefit of the teaching of Costopoulos et al is in the application of fly ash in building material compositions without the use of heat. Therefore, there appears to be no motivation to preheat the composition of Costopoulos et al.

As to claim 24, Costopoulos et al and the additional prior art of record fail to positively teach applicant's claimed composition weight percentages for the fly ash, water and first binder.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Todd J. Kilkenny** whose telephone number is **(703) 305-6386**. The examiner can normally be reached on Mon - Fri (9 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Todd J. Kilkenny

TJK
March 24, 2003

Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700